

REMARKS

In the official action, claim 1 has been rejected as being anticipated by U.S. patent no. 6,134,580 (TAHARA et al.). Claims 2, 11, and 21 have been rejected as being unpatentable over TAHARA et al. in view of Official Notice. Claims 3, 4, 6 – 10, 12 – 17, 22 – 28, 31, and 32 have been rejected as being unpatentable over TAHARA et al. in view of Official Notice, in further view of JAGANNATHAN et al. Claims 5, 18 – 20, 29, and 30 have been rejected as being unpatentable over TAHARA et al. in view of Official Notice and JAGANNATHAN et al., in further view of LAPORTA et al. Applicants respectfully traverse.

As the Examiner would appreciate, claim 1 relates to a method of migrating a computing process from a first host to a second host. As explained at pages 1 and 2 of the specification, conventionally, object-oriented programming manipulates only data and program modules and thus it is difficult to interrupt a running program and migrate it to another machine. Further, such migrations are effected from outside the running program by utilities that do not have any knowledge of the usage requirements and semantics of the components of the running program. Thus, it is difficult to adapt the migrating program to a new computing environment (i.e., the second host) that has elements that are different from the first host.

Claim 1 (prior to the present amendment) recites that the migrating computing process discards data and/or program code and/or execution states specific to the first host, and receives data and/or program code and/or execution states specific to the second host. In this manner, the computing process has control of what to discard and receive since the control is within the computing process. Applicants respectively

disagree that TAHARA et al. is relevant to the patentability of the invention as claimed in former claim 1. Nonetheless, applicants wish to clarify the recitations to further define manipulation of the executing states specific to the first and second hosts. Accordingly, claim 1 has been amended to require the process to discard data and/or program code and execution states specific to the first host, and to require the process to receive data, and/or program code and execution states specific to said second host.

The amendment clarifies that it is the ability of the computing process to discard the execution states (and data and/or program code) specific to the first host, which is a distinguishing feature with respect to the applied documents. The ability to discard/receive the execution states within the control of the computing process allows the computing process to halt and migrate with greater flexibility. Applicants respectfully submit that the applied documents do not disclose the features of amended claim 1.

TAHARA et al. relates to a data processing apparatus that processes information that exists in a distributed form on a network. Looking at the passages cited by the Examiner, column 8, lines 41 - 67 describe the configuration of local nodes L and R of Figure 1 and that each node has a plan generating means that generates a plan that expresses the action to be taken by an agent when an input request code is received. It appears that the Examiner is reading the agent on the claimed computing process. Column 9, lines 1 to 9 disclose an agent control section 7 that migrates an agent between nodes, based on a go action at the plan. Column 14, lines 58 to 61 describe that the local side (i.e., the first host), upon receiving notification of the successful migration, deletes the agent process and releases new resources to end the agent migration. Thus, the entire agent process is deleted after its migration which means that

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the data and/or program code that is specific to the agent process is deleted. Significantly, there is no disclosure or suggestion that the deletion of the agent process includes any component, particularly the execution states, that is specific to the local side (i.e., the first host).

In contrast, unlike TAHARA et al., in claim 1 it is the data and/or program code and execution states (in particular, the execution states) of the computing process specific to the first host that are discarded.

Further, even if TAHARA et al. disclose deleting components specific to the local side (i.e., first host), which clearly is not the case, any such deletion is not controlled by the agent but rather, under the directions of an utility outside of the agent (i.e., an external utility running on the local side) since TAHARA et al. teaches that it is the node manager 15 that is responsible for deleting an agent and for its migration (see column 16, lines 23 to 27; column 17, lines 51 to 54; and column 19, lines 1 to 6). Unlike TAHARA et al., claim 1 includes the limitation that the computing process discards data and/or program code and execution states specific to the first host which is clear to mean that the computing process has control over what it discards, particularly the execution states specific to the first host.

Also, at numbered paragraph 5 of the official action, the Examiner referred to numerous passages to assert that the agent of TAHARA et al. receives data and/or program code and/or execution states specific to the second host. Applicants respectfully disagree.

As explained at column 10, lines 55 to 60 referred to by the Examiner, code for the purpose of achieving a desired state is input as request code by a user. Column 10,

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line 60 to column 11, line 3 provide an example of a request code but there is no disclosure that the request code contains data and/or program and execution states that is specific to the destination node (i.e., the second host). Further, column 14, lines 34 to 61 describe the agent migration process and it is suggested that upon receiving an agent acceptance request from a local side, the remote side sets the process for the agent to prepare for the acceptance of the agent. However, there is again no disclosure that the agent receives any information that is specific to the remote side (i.e., second host), unlike what is being claimed in amended claim 1. For the above reasons, applicants submits that claim 1 is novel over the disclosure of TAHARA et al.

Applicants also submit that claim 1 is not obvious in light of the teachings of TAHARA et al. because TAHARA et al. are not concerned with solving migration difficulties of a computing process (agents) due to hardware/configuration incompatibilities between sending and receiving hosts. Instead, it seems that TAHARA et al. acknowledge that such problems might occur because TAHARA et al. propose re-migrating the agent if a failure is encountered (column 36, lines 19 to 30). Further, there is no teaching in this prior art about the advantages of manipulating execution states of the sending/receiving host to obviate re-migration. Thus, a skilled artisan would not be motivated to modify the agent such that the agent can respectively discard and receive data, and/or program code and execution states specific to the migration origination and migration destination, as claimed.

Further, TAHARA et al. teach the use of a management node to control the operation of the agent and thus, a skilled person would understand that external control would be the preferred option and thus would not contemplate modifying the structure of

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the agents so that the agents can discard data and/or program code and execution states specific to a first host. Thus, for at least these reasons, applicant submits that claim 1 is not obvious in light of TAHARA et al.

Applicants also submit that the other two citations JAGANNATHAN et. al. and LA PORTA et. al. do not supply the deficiencies of TAHARA et al. Neither document is concerned with solving hardware and software incompatibilities between a host and destination and neither discloses or suggests a migrating computing process discarding data and/or program code and execution states specific to a first host, and receiving data and/or program code and execution states specific to a second host.

Therefore, in view of the above, applicants submit that claim 1 is patentably distinguishable from the cited documents. Consequently, an indication of its allowability is respectfully requested.

The dependent claims are also believed to recite further patentable subject matter of the invention and therefore are also believed allowable over the prior art. As such, allowance of the dependent claims is deemed proper for at least the same reasons noted for the independent claims, in addition to reasons related to their own recitations. Accordingly, applicants respectfully request reconsideration of the outstanding rejections and an indication of the allowability of all of the claims in the present application.

The above amendments have been presented merely for the purpose of clarification, and not to overcome the applied prior art. Accordingly, no estoppel is deemed to result from any of the present amendments.

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Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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